

EXHIBIT

APPLICATION FOR MODIFICATION OF EXPERIMENTAL LICENSE WJ2XWD

Introduction

Harman International Industries, Inc. (Harman) is a leading pioneer in developing reliable and secure platforms for the Connected Car, providing integrated solutions for the automotive industry. Harman holds experimental license WJ2XWD for purposes of testing modular Cellular-V2X (C-V2X) prototypes at specified locations for purposes of testing, development, and evaluation.

By this application, Harman seeks to modify experimental license WJ2XWD to: (1) add an additional location; and (2) obtain experimental authority to operate modular prototypes that transmit and receive signals that comply with rules for the Dedicated Short Range Communications (DSRC) service (47 CFR §§90.371-377).

The Commission established the DSRC service in the 5.850-5.925 GHz band for enabling vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) communications. See Amendment of Parts 2 and 90 of the Commission's Rules to Allocate the 5.850-5.925 GHz Band to the Mobile Service for Dedicated Short Range Communications of Intelligent Transportation Services, ET Docket No. 98-95, *Report and Order*, 14 FCC Rcd 18221 (1999). Recently, cellular specifications have emerged that support vehicle-to-everything (V2X) communications – V2V, V2I, vehicle-to-pedestrian (V2P), and vehicle-to-network (V2N). Experimental license WJ2XWD authorized Harman to test modular technologies that would employ C-V2X functionality as an add-on module on frequencies allocated to DSRC.

In light of successful results of testing that Harman has conducted thus far, Harman wishes to expand testing and evaluate both DSRC and C-V2X operations, and integrate them as modular technologies that would allow for further developmental flexibility.

Proposed Test and Objectives

The test objective is to evaluate Cellular-V2X operation in real-world, in-vehicle scenarios. Message transmission and reception, packet loss, packet error, latency, and effects of fading would be evaluated in these tests. Operation would be mobile with two or more vehicles, equipped with a C-V2X or DSRC radio each.

Transmitter parameters for the proposed DSRC operations are the same as previously authorized under this license for C-V2X.

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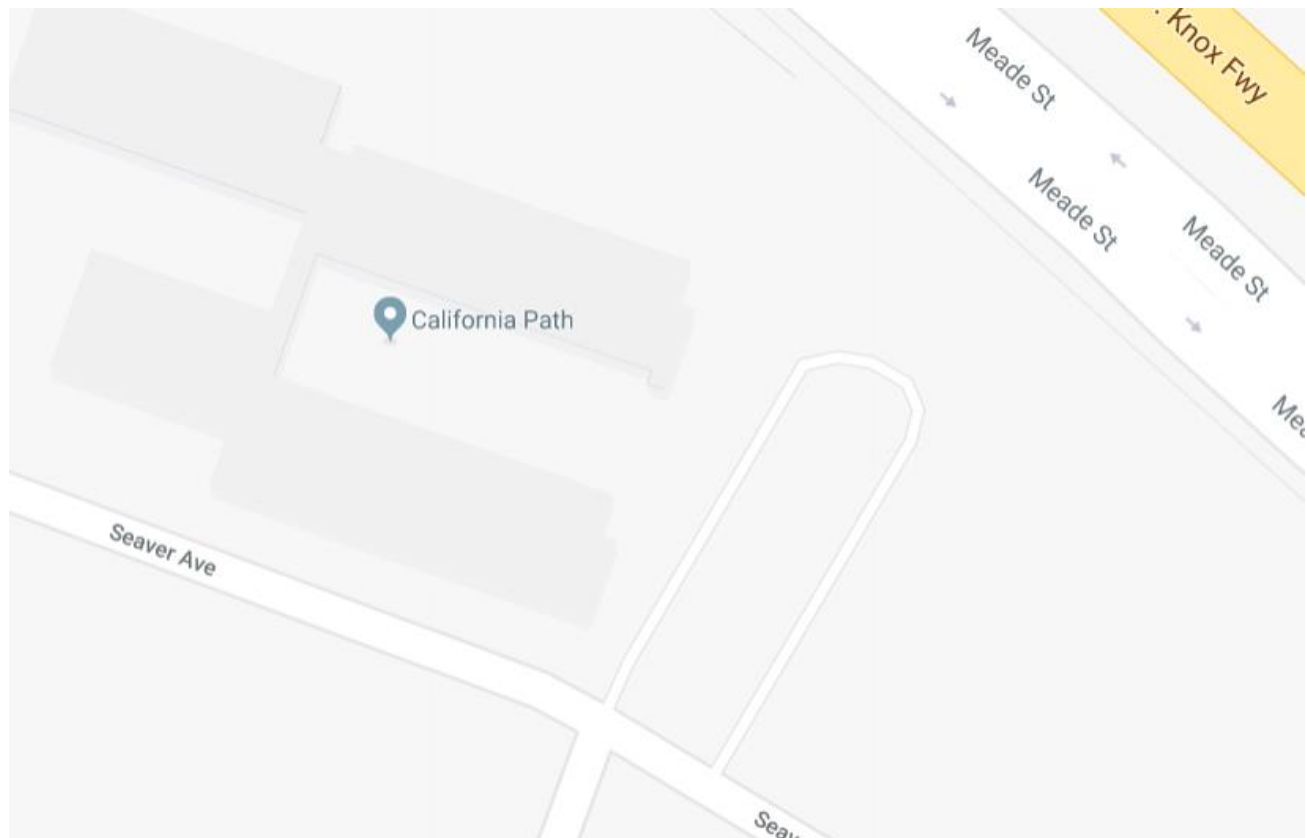
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Test Location & Schedule

The proposed additional location is the test track maintained by California Partners for Advanced Transportation Technology (PATH), and is located at 1357 S 46th, Richmond, CA 94804. The test track is centered at GPS coordinates 37° 54' 59.9"N, 122° 20' 02.8"W.

This road center is 260m from the building. Nearest public roads are Seaver Avenue and Meade Street.



Harman expects to run these tests from February 2019 to April 2019, so no extension of time is necessary under license WJ2XWD. Operation would be restricted to 2 weekdays per week (depending on test track reservation).

Minimizing Interference

Harman understands that the proposed temporary demonstration at CES under Part 5 of the Commission's rules must avoid causing interference to co-channel licensed operations. As noted, the devices to be tested

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would operate on frequencies allocated to DSRC service. Harman understands that the California Advanced Transportation Technology facilities at the instantly proposed additional site routinely are used for evaluation and testing of automotive technologies, V2X included, and the nearest DSRC licensed operations are those of the California Department of Transportation some five miles away (license WQBH796, location 04-0001). Given that Harman's operations would be low power, sporadic and non-continuous, and the maximum transmitting antenna height would not exceed 1 meter, it is highly unlikely that the proposed experiment would result in harmful interference.